



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,129	09/25/2001	Takeshi Ishizaki	36992.00083 (HAL 187CIP)	2009
23493	7590	02/24/2006	EXAMINER	SHIN, KYUNG H
SUGHRUE MION, PLLC 401 Castro Street, Ste 220 Mountain View, CA 94041-2007			ART UNIT	PAPER NUMBER
			2143	

DATE MAILED: 02/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/964,129	ISHIZAKI, TAKESHI	
	<b>Examiner</b>	<b>Art Unit</b>	
	Kyung H. Shin	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 23 November 2005.

2a) This action is FINAL.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-15 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-15 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>11/23/05</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

1. This action is responding to application RCE filed 11/23/2005.
2. Claims 1 - 15 are pending. Claim 1 has been amended. Claim 16 - 20 have been cancelled. Independent claim is 1.

### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

3.1 Applicant argues that the referenced prior art does not disclose “*... virtual router configurable to be dedicated to a customer ...*” (see Remarks Page 7, Line 6)

The Gonda (6,662,221) and Rao (6,674,756) prior art combination discloses the capability for a virtual router to be dedicated to a particular customer. (see Rao col. 20, lines 32-39: VPN ID, dedicated virtual communications)

3.2 Applicant argues that the referenced prior art does not disclose “*... virtual router adds tag information based on the VPN ID to the packets ...*” (see Remarks Page 7, Line 9)

The Gonda (6,662,221) and Rekhter (6,526,056) prior art combination discloses the capability to capture and utilize tag (i.e. label) information in virtual router communications. (see Rekhter col. 4, lines 46-64: tag (i.e. label) information utilized in virtual communications)

3.3 Applicant argues that the referenced prior art does not disclose “... enabling virtual separation of packets within the router and enabling IP addresses spaces within a private address range to overlap between different clients ...” (see Remarks Page 7, Lines 10-12)

The Gonda (6,662,221) and Rao (6,674,756) prior art combination discloses the capability for usage of a separate and independent architecture for virtual communications. (see Rao col. 2, lines 25-27; col. 9, lines 32-37: virtual router operating as a separate and independent entity) The Gonda (6,662,221) and Rekhter (6,526,056) prior art combination discloses the capability for the overlap address spaces in virtual communication. (see Rekhter col. 33, lines 39-42; col. 3, lines 39-44: address space overlap within virtual communications)

#### **Claim Rejection - 35 USC § 103**

4. **Claims 1 - 5, 7 - 11, 14, 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Gonda et al.** (US Patent No. 6,662,221) in view of **Rao et al.** (US Patent No. 6,674,756) and further in view of **Rekhter et al.** (US Patent No. 6,526,056) and further in view of **Brenner et al.** (US Patent No. 5,881,227).

**Regarding Claims 1,** Gonda discloses a system, comprising:

- a) a connection to a virtual private network; (see Gonda col. 4, lines 48-53: VPN connectivity)

e) at least one volume; (see Gonda col. 6, lines 13-14: volume attached to server system)

Gonda discloses wherein a VPN server system. (see Gonda col. 2, line 64 - col. 3, line 3: VPN server system, OS software must be booted into a logical partition for load operating system) Gonda does not specifically disclose the usage of logical partitions, a virtual LAN utilizing one or more virtual routers, tag information for communications, and a switch for controlling services.

However, Brenner discloses:

c) a plurality of logical partitions, such that the logical partitions are maintained logically separate from each other; (see Brenner col. 5, lines 5-8; col. 4, lines 45-50; col. 8, line 66 - col. 9, line 4: mapping between host and logical partition, mapping between host (i.e. customer))

And, Rao and Rekhter disclose:

b) a router, coupled to said virtual private network connection, wherein said router maintains a virtual router, said virtual router configurable to be dedicated to a customer (see Rao col. 12, lines 6-11; col. 2, lines 28-30: VLAN switch, virtual LAN consisting of one or more virtual routers connecting VPNs; col. 9, lines 30-43: mapping between router and host) , wherein the router receives packets from the virtual private network, each packet having a VPN ID, wherein the router uses the VPN ID and a dedicated virtual routing table (see Rao col. 9, line 67 - col. 10, line 1; col. 20, lines 32-39: VPN IDs ; col. 2, lines 23-27: virtual router

routing tables) to filter packets to the virtual router associated with the VPN ID,  
wherein the virtual router adds tag information (see Rekhter col. 3, lines 44-47:  
virtual router ; col. 4, lines 46-64: tag (i.e. label) information (i.e. forwarding)  
utilized within virtual router communications) based on the VPN ID to the  
packets before transmitting the packets to a virtual LAN switch, thereby enabling  
virtual separation of packets (see Rao col. 9, lines 30-43; col. 2, lines 25-27:  
virtual router operate as separate and independent entities for transfer of  
packets) within the router and enabling IP addresses spaces within a private  
address range to overlap between different clients; (see Rekhter col. 3, lines 44-  
49: virtual router ; col. 33, lines 39-42: VPN address space overlap)

And, Brenner, Rao and Rekhter disclose:

d) a virtual LAN switch, coupled to said router and to said server, said virtual LAN  
switch providing selectable forwarding of information from said virtual router to  
one of said plurality of logical partitions (see Brenner col. 5, lines 5-8: switch; col.  
4, lines 45-50; col. 8, line 66 - col. 9, line 4: mapping between host and logical  
partition, mapping between host (i.e. authorized user, customer) in accordance  
with virtual LAN configuration information mapping the virtual router to the logical  
partition (see Rao col. 12, lines 6-11; col. 2, lines 28-30; col. 9, lines 30-43: VLAN  
switch, virtual LAN consisting of one or more virtual routers, mapping between  
virtual router and host), said virtual LAN switch using the tag information and  
LAN configuration information to forward the packets to the one of said plurality

of logical partitions; (see Rekhter col. 3, lines 44-47: virtual router ; col. 4, lines 46-64: tag information (i.e. forwarding) utilized within virtual router communications) and virtual router, resulting in mapping between virtual router and host ; col. 33, lines 39-42; col. 2, lines 39-44: VPN address overlap)

f) an FC switch, wherein said FC switch provides selectable interconnection between said one of said plurality of logical partitions and said at least one volume (see Brenner col. 5, lines 5-8: switch; col. 4, lines 45-50; col. 8, line 66 - col. 9, line 4: mapping between host and logical partition plus a mapping between host (i.e. customer) and virtual router), wherein the FC switch uses a storage table to determine an appropriate one of said at least one volume, to confirm rights of the logical partition to access the determined one of said at least one volume, and to forward the packets from the logical partition to the determined one of said at least one volume. (see Rekhter col. 3, lines 44-47: virtual router ; col. 4, lines 46-64: tag information (i.e. forwarding) utilized to forward packets within virtual router, VPN communications) (see Rao col. 12, lines 6-11; col. 2, lines 28-30; col. 9, lines 30-43: VLAN switch, authorized user (i.e. customer), virtual LAN, one or more virtual routers, VPN connections, mapping between virtual router and host)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gonda to enable utilization of virtual LAN technology with virtual router capability as taught by Rao, and to enable the usage of tag (i.e. label) information in the forwarding communications utilizing virtual routers as taught by

Rekhter, and to enable the creation, usage management information to implement logical partition technology as taught by Brenner. One of ordinary skill in the art would be motivated to employ Rao in order to provide fault tolerant and efficient services within an network environment with increased number and variety of network traffic (see Rao col. 2, lines 6-9: “*... network switch capable of providing fault-tolerant and efficient services that will accommodate the increase in the number and the variety of network traffic ...*”), and to employ Rekhter in order to enable virtual router technology at a considerable reduction in cost. (see Rekhter col. 3, line 66 - col. 4, line 2: “*... provide its customers the peer model's advantages at costs considerably lower than those that the conventional virtual-router approach exacts ...*”), and to employ Brenner in order to enable the creation of multiple independent isolated processing environments (see Brenner col. 2, lines 43-48: “*... create multiple production environments with the same non-interfering characteristics ... sufficiently isolated (so that one environment does not adversely affect the working of other environments) ...*”).

**Regarding Claim 2**, Gonda discloses the system of claim 1, further comprising a virtual private network management system that controls operation of said router. (see Gonda col. 4, lines 25-27; col. 3, lines 49-52: router utilized for VPN server and network management communications)

**Regarding Claim 3**, Gonda discloses the system of claim 2, said virtual private network management system further comprising: a network interface module that receives

commands from an integrated service management system (see Gonda col. 3, lines 60-64: integrated services management), a service order processing module that analyzes and executes the commands (see Gonda col. 12, lines 2-7; col. 12, lines 12-18: service order and command processing system), updates a table of virtual private network information, and sends new configuration information to said router through a control module (see Gonda col. 11, lines 41-47: update, maintain VPN information database; col. 7, lines 51-56: configuration changes are processed and implemented).

**Regarding Claim 4**, Gonda discloses the system of claim 2, said virtual service management system further comprising a virtual private network table, said virtual private network table having a VPN ID that identifies a specific VPN, an Address 1 and an Address 2 that hold IP addresses of two end points of said specific VPN (see Gonda col. 14, lines 17-23: VPN tunnel endpoints are maintained), a Protocol that specifies a VPN protocol that is used on said specific VPN (see Gonda col. 11, lines 41-47: specific VPN tunnel type, an Internet that indicates whether access to public Internet is permitted (see Gonda col. 4, lines 44-47: Internet access for VPN), and a VLAN ID that is assigned to packets received over said specific VPN (see Gonda col. 14, lines 14-15: VPN (VLAN) identification information maintained).

**Regarding Claim 5**, Gonda discloses the system of claim 1, further comprising a server management system that controls operation of said virtual LAN switch. (see Gonda col. 2, line 64 - col. 3, line 3: VPN server network management system )

**Regarding Claim 7**, Gonda discloses the system of claim 1, further comprising an integrated service management system that controls operations. (see Gonda col. 3, lines 49-52: integrated services VPN network management system)

**Regarding Claim 8**, Gonda discloses the system of claim 7, said integrated service management system further comprising: a network interface module that receives requests to change configuration, a service order processing module that analyzes and executes requests to change configuration received by said network interface module (see Gonda col. 12, lines 2-7: service order configuration requests processed), updates related table cache in a service management database, and sends new configuration information using said network interface module. (see Gonda col. 7, lines 51-56: configuration changes are processed and implemented)

**Regarding Claims 9, 10**, Gonda discloses the system of claim 8, further comprising an operator console application, customer portal application that sends a request command to change service configuration to said integrated management system. (see Gonda col. 8, lines 7-14: configuration change requests are processed and implemented)

**Regarding Claim 11**, Gonda discloses the system of claim 8, said integrated service management system further comprising a service configuration table, said service

configuration table having destination information. (see Gonda col. 8, lines 31-47: VPN connection destination information)

**Regarding Claim 14,** Gonda discloses the system of claim 8, said integrated service management system further comprising a service mapping table, said service mapping table having a customer identifier, a virtual private network identifier, a server identifier, and a volume identifier. (see Gonda col. 14, lines 3-8; col. 14, lines 14-15; col. 14, lines 51-53: customer identification, VPN Identification, server identification, volume identification)

**Regarding Claim 15,** Gonda discloses the system of claim 8, said integrated service management system further comprising a service status table, said service status table having a customer identifier, a virtual private network status, a server status, and a volume status (see Gonda col. 14, line 16: VPN, server, volume status information; col. 14, lines 3-8; col. 14, lines 14-15: customer identification, VPN identification)

5. **Claims 6, 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Gonda-Rao-Rekhter-Brenner** as applied to claims 1, 7, 8 above, and further in view of **Blumenau et al.** (US Patent No. 6,665,714).

**Regarding Claim 6,** Gonda discloses a management system for controlling a switch (see Gonda col. 14, lines 57-58; col. 3, lines 60-64: VPN switch utilized by VPN

management system). Gonda does not disclose a storage management system. However, Blumenau discloses a system of claim 1, further comprising a storage management system. (see Blumenau col. 2, lines 4-12: data storage management system)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gonda to implement a storage management system as taught by Blumenau. One of ordinary skill in the art would be motivated to employ Blumenau in order to provide centralized data management and strengthen security by removal of trust requirement in accessing storage in network communications. (see Blumenau col. 5, lines 33-38: “*... data management to be centralized ... removes the need to trust the hosts seeking access to the storage system ...*”)

**Regarding Claim 13,** Gonda discloses an integrated services management system. Gonda does not disclose a storage table having volume, port, HBA, capacity identification and access information. However, Blumenau discloses the system of claim 8, further comprising a storage table, said storage table having a volume identifier (see Blumenau col. 29, lines 46-53: volume identification), a port identifier, (see Blumenau col. 23, lines 2-7: port identification) an allowed host bus adapter(s) (HBAs) identifier (see Blumenau col. 8, lines 35-41: HBA identifiers), a capacity identifier (see Blumenau col. 29, lines 46-53: capacity parameter), and an access information (see Blumenau col. 2, lines 45-52: access information for storage management system).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify Gonda to implement a storage management system as taught by Blumenau. One of ordinary skill in the art would be motivated to employ Blumenau in order to provide centralized data management and strengthen security by removal of trust requirement in accessing storage in network communications. (see Blumenau col. 5, lines 33-38)

6. **Claim 12** is rejected under 35 U.S.C. 103(a) as being unpatentable over Gonda-Rao- Rekhter-Brenner as applied to claims 1, 7, 8 above, and further in view of Blumenau and Bradley et al. (US Patent No. 6,584,507).

**Regarding Claim 12**, Gonda discloses an integrated management system comprising a server table, having a server identification, an address, a physical server identifier (see Gonda col. 14, lines 51-53: service unit (server) identification), a virtual LAN identifier, a logical partition (LPAR) identification, an operating system identifier, and CPU information. Blumenau discloses a management system further comprising a host bus adapter (HBA) identification (see Blumenau col. 2, lines 4-12; col. 8, lines 35-41: mapping information between volumes and physical devices, HBA information). Gonda and Blumenau do not disclose an application identification and operating system information. However, Bradley discloses the system of claim 8, an application identification and operating system information (see Bradley col. 3, lines 54-57: application identification; col. 16, lines 61-62: operating system information)

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify Gonda to utilize an application server for application management as taught by Bradley. One of ordinary skill in the art would be motivated to employ Bradley in order to correctly certify the integration of applications within the network management system. (see Bradley col. 2, lines 64-67: “*... certifying that the connection information will correctly integrate the application program with the network management system ... certifying information that identifies the connection as certified* ... ”)

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyung H. Shin whose telephone number is (571) 272-3920. The examiner can normally be reached on 9 am - 7 pm.

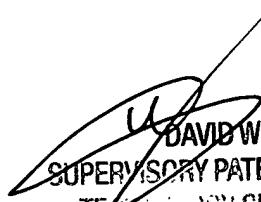
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

K H S  
Kyung H Shin  
Patent Examiner  
Art Unit 2143

\*\*\*

KHS  
February 17, 2006



DAVID WILEY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100